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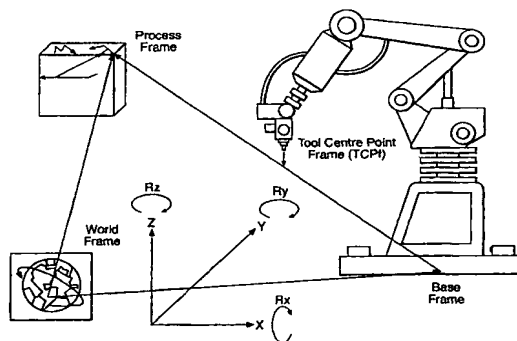
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ning of each regular issue of the PCT Gazette.

(54) Title: PROGRAM ROBOTS WITH OFF-LINE DESIGN



(57) Abstract: A method of programming a robot for operation in a robot manufacturing facility, for example for automobile man-
ufacture, comprises firstly, establishing sets of design data including data relating to dimensions and relative positions of parts of a
robot, positions of a robot base and of product handling and transporting equipment in a manufacturing cell and design data relating
to dimensions and positions of parts of the proposed product, and secondly establishing a robot program by processing that data. The
robot program established comprises data and instructions for movement of defined parts of the robot for manufacturing or assembly
tasks to be carried out by the robot in that manufacturing cell. The method further comprises, thirdly, operating a virtual model of
the robot in a virtual model of the manufacturing cell to check operability and fourthly, after such adjustment as may be necessary
to secure operability at the virtual level, operating the corresponding real robot in the corresponding real cell. The real robot and/or
manufacturing cell incorporates beams for sensing the real positions of the operative part or parts of the real robot in relation to
the real workpiece or product, supported by the real product handling or transporting equipment. At this stage, the method further
comprises determining corrections required to bring the operative part or parts of the robot into the desired positions with respect to
the real workpiece supported by the real product handling and transporting equipment in the cell, and applying these corrections to
the design data originally processed to establish a revised program for controlling the real robot in the real cell.

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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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X	<p>EP 0 660 210 A (BRITISH AEROSPACE) 28 June 1995 (1995-06-28) claim 1</p>	2
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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